

AMENDMENTS TO THE CLAIMS

This listing of claims replaces all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) In a messaging system, a method of defining a route whereby an electronic message is to be for sequentially distributed distributing an electronic message to a plurality of recipients in series, one after the other, the method comprising the steps of:

generating a routing map, the routing map comprising a low-level description of a route of the electronic message and defining a series of operations that, when executed, result in the electronic message being sequentially distributed to the plurality of recipients in a series specified by the routing map, one after the other in a designated order; and referencing a plurality of executable scripts in the routing map and associating the routing map with an plurality of executable scripts with the series of operations of the routing map, wherein the plurality of executable scripts are stored separately from the routing map and are called when a corresponding portion of the route of the electronic message is executed, each referenced executable script, when executed, performs performing one or more of the series of operations defined by the routing map.

2. (Original) A method as defined in claim 1, further comprising the step of associating the routing map with a routing engine, wherein the routing engine is capable of performing another of the series of operations defined by the routing map.

3. (Original) A method as defined in claim 1, wherein the step of generating a routing map further comprises the step of selecting the plurality of recipients of the electronic message.

4. (Currently Amended) A method as defined in claim 1, wherein the step of associating the plurality of scripts with the routing map with an executable script further comprises the step of composing the associating a plurality of executable scripts encoded in a scripting language.

5. (Currently Amended) A method as defined in claim 1, wherein the step of associating the routing map with an plurality of executable scripts with the series of operations of the routing map further comprises the step of using an existing executable script.

6. (Original) A method as defined in claim 1, wherein the routing map comprises a plurality of entries, each representing a state at which a process of routing the message can reside, each of the entries referencing one of the series of operations.

7. (Currently Amended) A method as defined in claim 1, further comprising the step of distributing a first electronic message through the defined route, including:

monitoring the distribution of the first electronic message by advancing the routing map from a first state to a second state, wherein the second state corresponds to one of the series of operations; and

in response to the second state, executing the an executable script associated with the second state so as to distribute the first electronic message to a recipient.

8. (Currently Amended) A method as defined in claim 7, further comprising, after distributing the first electronic message to a recipient, the step of redefining the route by modifying at least one of the plurality of executable scripts without modifying the routing map.

9. (Original) A method as defined in claim 8, further comprising the step of distributing a second electronic message through the redefined route.

10. (Currently Amended) A method as defined in claim 7, further comprising, after distributing the first electronic message to a recipient, the step of redefining the route by modifying the routing map without modifying the plurality of executable scripts.

11. (Currently Amended) A method as defined in claim 10, wherein modifying the routing map comprises the steps of:

dissociating the routing map from at least one of the plurality of executable scripts; and

associating the routing map with another one of the plurality of executable scripts.

12. (Original) A method as defined in claim 10, further comprising the step of distributing a second electronic message through the redefined route.

13. (Original) A method as defined in claim 7, wherein advancing the routing map from a first state to a second state is conducted in response to an event generated by an event service that monitors activity of the messaging system.

14. (Currently Amended) A method as defined in claim 1, wherein the messaging system includes a server system, one or more clients, and communication links connecting the server system and the one or more clients, the method further comprising the step of storing the routing map and the plurality of executable scripts at the server system.

15. (Currently Amended) A method as defined in claim 14, further comprising the step of distributing a first electronic message through the defined route according to a hub and spoke model, wherein the server system represents the hub and the communication links represent spokes, the step of distributing the first electronic message comprising the steps of:

transmitting the first electronic message from the server system to a first client of the one or more clients without sending the routing map or the plurality of executable scripts to the first client;

receiving at the server system a response from the first client to the electronic message; and

transmitting the first electronic message from the server system to a second client of the one or more clients without sending the routing map or the plurality of executable scripts to the second client.

16. (Currently Amended) A method as defined in claim 15, further comprising the step of evaluating the response at the server system by executing the an executable script referenced in the routing map.

17. (Currently Amended) In a messaging system including a server system and a plurality of client systems, wherein the server system has an event service providing events in response to activity of the messaging system, a method of defining a route whereby for sequentially distributing an electronic message is to be sequentially distributed to a plurality of recipients in series, one after the other, the method comprising the steps of:

selecting a sequence of recipients who are to receive the electronic message in series, one after the other in a designated order;

generating a routing map, the routing map comprising a low-level description of a route of the electronic message and defining a series of operations that, when executed, result in the electronic message being sequentially distributed to the recipients in series, one after the other in the designated order;

referencing the plurality of executable scripts in the routing map and associating the routing map with an the series of operations of the routing map wih the plurality of executable scripts, wherein the plurality of executable scripts are stored separately from the routing map and are called when a corresponding portion of the route of the electronic message is executed by the plurality of executable scripts, a referenced executable script, when executed, performs performing a first operation of the series of operations defined by the routing map; and

associating the routing map with a routing engine, wherein the routing engine is capable of performing a second operation of the series of operations defined by the routing map.

18. (Original) A method as defined in claim 17, further comprising the steps of:
associating a second electronic message with the routing map to create a second process instance; and
assigning a routing identifier with the second process instance.

19. (Currently Amended) A method as defined in claim 17, wherein the routing map is encoded on a computer readable storage medium and comprises a plurality of entries, wherein each of the plurality of entries includes:

a first data field containing an operation identifier that uniquely identifies the particular entry;

a second data field containing data representing one of the series of operations; and

a third data field containing an argument, wherein:

if said one of the series of operations is to be performed by a particular one of the executable scripts, the-a corresponding argument is passed to the particular one of the plurality of executable scripts when the routing map is executed; and

if said one of the series of operations is to be performed by the routing engine, the argument is passed to the routing engine when the routing map is executed.

20. (Currently Amended) In a server included in a messaging system, wherein the messaging system further includes a plurality of clients and wherein the server has an event service providing events in response to activity of the messaging system, a method for sequentially distributing an electronic message to two or more recipients in series, one after the other, the method comprising the steps of:

associating the electronic message with a routing map providing a low-level description of a route of the electronic message and defining routing logic by a route over which the electronic message is to be sequentially distributed to the two or more recipients in series, one after the other in a designated order, the routing map further referencing a plurality of executable scripts and associating the plurality of scripts with steps in the route over which the electronic message is to be sequentially distributed, the plurality of executable scripts being stored separately from the routing map and being called when a corresponding portion of the route of the electronic message is executed;

in response to a first event provided by the event service, executing a first executable script referenced by and associated with the routing map, the first executable script so as to transmitting the electronic message to a first recipient of the two or more recipients; and

in response to a second event provided by the event service, executing a second executable script referenced by and associated with the routing map, so as to transmit the first executable script transmitting the electronic message to a second recipient of the two or more recipients.

21. (Currently Amended) A method as defined in claim 20, wherein the routing logic route comprises a series of operations, each operation being associated with ~~an~~one or more of the plurality of executable script stored separately on the server system.

22. (Original) A method as defined in claim 20, further comprising the step of associating the routing map with an additional electronic message having a unique routing identifier, wherein the additional electronic message is sequentially distributed to the two or more recipients in series, one after the other in the designated order.

23. (Currently Amended) A method as defined in claim 20, further comprising the step of managing a state transition of the routing table map using the routing engine.

24. (Currently Amended) In a messaging system including a server system, a method for sequentially distributing an electronic message to a plurality of recipients in series, one after the other in a designated order, comprising the steps of:

at the server system, obtaining a routing map, the routing map comprising a low-level description of a route of an electronic message and defining a series of operations that, when executed, result in the electronic message being sequentially distributed to the plurality of recipients in a series specified by the routing map, one after the other in a designated order, the routing map further including references to a plurality of executable scripts which are stored separately from the routing map and are called when a corresponding portion of the route of the electronic message is executed;

at the server system, associating routing logic the routing map with an electronic message folder, wherein upon associating the routing map with the electronic message folder, the routing map is associated with each electronic document in the folder the routing logic defines a designated order by which the electronic message can be sequentially distributed to the recipients in series, one after the other in the designated order; and

in response to the electronic message being placed in the electronic message folder, routing the electronic message along the route defined in the routing map executing the routing logic, wherein the routing logic plurality of executable scripts referenced in the routing map sequentially transmits transmit the electronic message to the recipients in series, one after the other in the designated order as defined by the route in the routing map.

25. (Currently Amended) A method as defined in claim 24, wherein the step of executing the routing logic routing the electronic message further comprises the steps of:

transmitting the electronic message to a first recipient;

receiving at the server system a response to the electronic message from the first recipient; and

upon receiving a response from the first recipient at the server system, transmitting the electronic message to a second recipient.

26. (Currently Amended) A method as defined in claim 24, wherein the step of associating ~~routing logic~~ the routing map with an electronic message folder comprises the step of storing the ~~routing logic~~ routing map at the server system.

27. (Original) A method as defined in claim 24, further comprising the step of placing additional electronic messages in the folder, wherein each additional electronic message is sequentially distributed to the plurality of recipients in series, one after the other in the designated order.

28. (Currently Amended) In a messaging system including a server system and two or more clients connected to the server system, a method for sequentially distributing an electronic message to the two or more clients in series, one after the other in a designated order, comprising the steps of:

storing, at the server system, routing logic routing map for distributing the electronic message in series to a plurality of recipients, one after the other in the designated order, the routing map including a low-level description of a route an electronic message is to follow, the routing map further referencing and being associated with a plurality of executable scripts stored separately from the routing map, the plurality of executable scripts, when executed, causing a message to be transmitted and received as defined by the route in the routing map; and

distributing the electronic message to the two or more recipients according to the routing logic using a hub and spoke model, wherein the server system represents the hub and communication links between the server system and the two or more clients represent spokes, the step of distributing the electronic message comprising the steps of:

transmitting the electronic message from the server system to a first client of the two or more clients, the electronic message being transmitted without also transmitting route information from the routing logic routing map being sent to the first client;

receiving at the server system a response from the first client to the electronic message; and

after receiving the response from the first client, transmitting the electronic message from the server system to a second client of the two or more clients, the electronic message being transmitted without also transmitting route information from the routing map logic being sent to the second client.

29. (Currently Amended) A method as defined in claim 28, further comprising the steps of:

associating the electronic message with the routing ~~logie~~map; and

indicating, by a user of the messaging system, that the electronic message is to be sequentially distributed to the two or more clients in series, one after the other in the designated order.

30. (Currently Amended) A method as defined in claim 28, wherein ~~route of the electronic message is defined by a combination of the routing map and the plurality of executable scripts.~~ the step of storing routing logic comprises the step of:

encoding a first portion of the routing logic in a routing map; and

encoding a second portion of the routing logic in a routing script.

31. (Currently Amended) A method as defined in claim 30, wherein the step of distributing the electronic message comprises the steps of:

executing ~~the~~a first portion of the routing logic in the routing map, wherein the first portion instructs the server system to execute ~~a particular~~ the routing executable script; and

in response to the execution of the first portion of the routing logic, executing the ~~routing~~ particular executable script.

32. (Currently Amended) In a messaging system including a server system, a computer program product for implementing a method for defining a route for sequentially distributing an electronic message to two or more recipients in series, one after the other in a designated order, the computer program product comprising:

a computer-readable storage medium carrying encoded with computer-executable instructions for implementing the method wherein the computer-executable instructions comprise:

program code means for selecting a sequence of two or more recipients who are to receive the electronic message in series, one after the other in the designated order;

a routing map, the routing map comprising a low-level description of a route of the electronic message and defining a series of operations that, when executed, result in the electronic message being sequentially distributed to the two or more recipients in series, one after the other in the designated order;

an-a plurality of executable scripts referenced in and associated with the routing map, and stored separately from the routing map, wherein the-an executable script, when called from a corresponding portion of the routing map and executed, performs a first operation of the series of operations; and

a routing engine that is capable of performing a second operation of the series of operations.

33. (Original) A computer program product as defined in claim 32, wherein the computer executable instructions further comprise program code means for sequentially distributing additional electronic messages in series, one after the other in the designated order.

34. (Original) A computer program product as defined in claim 32, wherein the computer executable instructions further comprise program code means for managing state transitions of the routing map.

35. (Original) A computer program product as defined in claim 32, wherein the program code means for selecting a sequence of two or more recipients comprises an authoring tool for assisting a user of the messaging system in defining the route.

36. (Currently Amended) A computer program product as defined in ~~claim 27~~
claim 35, wherein the authoring tool comprises program code means for generating the routing map in response to the user defined defining the route.

37. (Currently Amended) A computer program product as defined in claim 32, wherein the program code means for selecting the sequence of two or more recipients comprises an electronic message folder displayed to a user of the messaging system, wherein an electronic message placed in the folder is automatically associated with the route.

38-39. (Cancelled).

40. (Currently Amended) In a server system included in a messaging system, wherein the messaging system has an event service generating events in response to activity of the messaging system, a method for executing scripts in a stateful manner to accomplish sequential distribution of an electronic message to a plurality of recipients, one after the other in a designated order, comprising the steps of:

storing a routing map at the server system, the routing map comprising a low-level description of a route of the electronic message, and wherein the routing map defines a series of operations that, when executed, result in the electronic message being sequentially distributed to the plurality of recipients in series, one after the other in the designated order, each operation being representative of a state and at least some of the operations being implemented in a plurality of executable scripts referenced in the routing map and associated with operations of the series of operations, the plurality of executable scripts being stored separately from the routing map and called when a corresponding operation of the series of operations is executed;

in response to a first event generated by the event service;

transitioning the routing map to a first state; and

executing a first executable script of the plurality of executable scripts in which a first operation of the series of operations is implemented, the first operation including at least sending the electronic message to a first recipient; and in response to a second event generated by the event service;

transitioning the routing map to a second state; and

executing a second executable script in which a second operation of the series of operations is implemented, the second operation including at least sending the electronic message to a second recipient.